Amendments to the Specification:

Please replace the paragraph at page 3, lines 7-29 with the following amended paragraph:

The inventors engaged in intensive research on a process of production for producing a high strength galvannealed steel sheet by a manufacturing equipment of hot-dip galvanized steel sheet using an all radiant tube type annealing furnace and as a result discovered that by making the atmosphere in the reducing zone an atmosphere containing H_2 in an amount of 1 to 60 wt % and comprising the balance of N_2, H_2O, O_2, CO_2, CO, and unavoidable impurities, controlling the log (PCO_2/PH_2) of the carbon dioxide partial pressure and hydrogen partial pressure in the atmosphere to log (PCO_2/PH_2) ≤ -0.5 and the log ($P\sout{CO_2}\ \underline{H_2O}/PH_2$) of the water partial pressure and hydrogen partial pressure to log (PH_2O/PH_2) ≤ -0.5, and controlling the log (P_T/PH_2) of the total partial pressure P_T of the carbon dioxide partial pressure PCO_2 and water partial pressure PH_2O and the hydrogen partial pressure to -3 ≤ log (P_T/PH_2) ≤ -0.5, it is possible to produce a high strength galvannealed steel sheet. Further, they discovered that by filling the all radiant-tube type annealing furnace with a gas comprised 1 to 100 wt % of CO_2 and the balance of N_2, H_2O, O_2, CO, and unavoidable impurities, it is possible to produce a high strength galvannealed steel sheet.

Please replace the paragraph at page 3, lines 32 to page 4, line 19 with the following amended paragraph:

(1) A process of production of a high strength galvannealed steel sheet comprising continuously plating by molten zinc a high strength steel sheet having a content of Si of 0.4 to 2.0 wt % during which making the atmosphere of the reducing zone an atmosphere containing H_2 to 1 to 60 wt % and comprised of the balance of N_2, H_2O, O_2, CO_2, CO, and unavoidable impurities, controlling, in the atmosphere, the log (PCO_2/PH_2) of the carbon dioxide partial pressure and hydrogen partial pressure to log (PCO_2/PH_2) ≤ -0.5, the log ($P\sout{CO_2}\ \underline{H_2O}/PH_2$) of the water partial pressure and hydrogen partial pressure to log (PH_2O/PH_2) ≤ -0.5, and the log (P_T/PH_2) of the total partial pressure P_T of the carbon dioxide partial pressure PCO_2 and water partial pressure PH_2O and the hydrogen partial pressure to -3 ≤ log (P_T/PH_2) ≤ -0.5, performing the annealing in the reducing zone in a ferrite-austenite two-phase temperature region at 720°C to 880°C, then cooling by a plating bath and performing the galvanizing so as to form a hot-dip galvanizing layer on the surface of the

cold rolled steel sheet, then heating for alloying the steel sheet on which the hot-dip galvanizing layer is formed at 460 to 550°C, it is possible to produce a high strength galvannealed steel sheet.

Please replace the paragraph at page 7, lines 9-23 with the following amended paragraph:

Specifically, the invention comprises making the atmosphere of the reducing zone an atmosphere containing H_2 to 1 to 60 wt % and comprised of the balance of N_2, H_2O, O_2, CO_2, CO, and unavoidable impurities, controlling the log (PCO_2/PH_2) of the carbon dioxide partial pressure and hydrogen partial pressure in the atmosphere to log (PCO_2/PH_2) ≤ -0.5 and the log ($P\sout{CO_2}$ $\underline{H_2O}/PH_2$) of the water partial pressure and hydrogen partial pressure to log (PH_2O/PH_2) ≤ -0.5, controlling the log (P_T/PH_2) of the total partial pressure P_T of the carbon dioxide partial pressure PCO_2 and water partial pressure PH_2O and the hydrogen partial pressure to -3 ≤ log (P_T/PH_2) ≤ -0.5, and performing the annealing in the reducing zone in a ferrite-austenite two-phase temperature region at 720°C to 880°C.

Please replace the paragraph at page 7, line 32 to page 8 line 7 with the following amended paragraph:

Further, in the reducing zone, for the purpose of causing internal oxidation of SiO_2, one or two or more of H_2O, O_2, CO_2, and CO are introduced into the reducing atmosphere, the log (PCO_2/PH_2) of the carbon dioxide partial pressure and hydrogen partial pressure in the atmosphere is controlled to log (PCO_2/PH_2) ≤ -0.5 and the log ($P\sout{CO_2}$ $\underline{H_2O}/PH_2$) of the water partial pressure and hydrogen partial pressure to log (PH_2O/PH_2) ≤ -0.5, and the log (P_T/PH_2) of the total partial pressure P_T of the carbon dioxide partial pressure PCO_2 and water partial pressure PH_2O and the hydrogen partial pressure is controlled to -3 ≤ log (P_T/PH_2) ≤ -0.5.

Please replace the paragraph at page 8, lines 8-12 with the following amended paragraph:

The log (PCO_2/PH_2) of the carbon dioxide partial pressure and hydrogen partial pressure and the log ($P\sout{CO_2}$ $\underline{H_2O}/PH_2$) of the water partial pressure and hydrogen partial pressure are controlled by introducing CO_2 and water vapor into the furnace.

Please replace the paragraph at page 9, lines 3-15 with the following amended paragraph:

H_2O and CO_2 need only be introduced in the required amounts. The method of introduction is not particularly limited, but the method of burning a gas comprised of a mixture of for example CO and H_2 and introducing the produced H_2O and CO_2, the method of burning a gas of CH_4, C_2H_6, C_8H_8, or another hydrocarbon or a mixture of LNG or another hydrocarbon and introducing the produced H_2O and CO_2, the method of burning a mixture of gasoline, light oil, heavy oil, or another liquid hydrocarbon and introducing the produced H_2O and CO_2, a method of burning ~~CH_8OH~~ CH_3OH, ~~C_2H_8OH~~ C_2H_5OH, or another alcohol or its mixture or various types of organic solvents and introducing the produced H_2O and CO_2, etc. may be mentioned.

Please replace the paragraph at page 9, lines 22-31 with the following amended paragraph:

Further, in addition to the method of introducing the H_2O and CO_2 produced by burning, the method may also be used of introducing a gas of a mixture of CO and H_2, a gas of CH_4, C_2H_6, C_8H_8, or another hydrocarbon, a mixture of LNG or another hydrocarbon, a mixture of gasoline, light oil, heavy oil, or another liquid hydrocarbon, CH_3OH, ~~C_2H_6OH~~ C_2H_5OH, or another alcohol or their mixtures, and various types of organic solvents etc. simultaneously with oxygen into the annealing furnace and burning them in the furnace to produce, H_2O and CO_2.

Please replace the paragraph at page 10, lines 13-31 with the following amended paragraph:

In particular, to achieve both a high strength and good press workability, the steel sheet to which Si or Mn has been added in a large amount is annealed, then cooled in the process of dipping into the plating bath from the maximum reached temperature to 650°C by an average of 0.5 to 10°C/sec then cooled from 650°C to the plating bath by an average of at least 3°C/sec. The cooling rate down to 650°C is made an average 0.5 to 10°C/sec to increase the percent volume of the ferrite for improving the workability and simultaneously increase the C concentration of the austenite to lower the free energy produced and make the temperature of start of the martensite transformation not more than the plating bath temperature. To make the average cooling rate down to 650°C less than 0.5°C/sec, it is necessary to make the line length of the continuous hot-dip galvanizing manufacturing

equipment longer and the cost becomes high, so the average cooling rate down to 650°C is made at least 0.5°C/sec.